

Work Order ID 130965

130965

Page 1

Item ID: D407-649-011

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Hardpoint for Heli-Utility-Pod™

Start Date: 3/16/15 Start Qty: 1.00 ***1***

Cust Item ID:

Required Date: 3/26/15 Req'd Qty: 1.00 ***1***

Customer:

Reference:

Approvals: Process Plan: MLS Date: 15-03-30 Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
N/A	Rev N/A		JA						
100	Document Control	0.00				DAS 6 9-89		MLS 150821	
100	DOCUMENT CONTROL								
DC	Memo	0.00						AUG 25 2015	
Doc.Control -USB or Paperwork	Photocopy blue file D407-649 and type labels per QSI 014		CHG001						
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.00				DAS 6 9-89			
120									
QC	Memo	0.00							
Quality Control									

① JA - 27 9-89 AUG 21 2015

AUG 25 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
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Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence
		☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge
		☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other

Work Order ID 130965

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130965

Page 2

Item ID: D407-649-011

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Hardpoint for Heli-Utility-Pod™

Stop

NS2

Start Date: 3/16/15 Start Qty: 1.00

1

Cust Item ID:

Required Date: 3/26/15 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

0.00

130

Packaging

Packaging

Memo

0.00

DAS

6

Packaging

Identify and pack for shipping as per PPP D407-649-011 Location: _____ PPP Rev: _____

9-89

AUG 25 2015

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.00

MCS

AUG 26 2015

Quality Control

54 20150828

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

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Page 1

Work Order ID: 130965

130965

Parent Item: D407-649-011

D407-649-011

Parent Item Name: Hardpoint for Heli-Utility-Pod™

Start Date: 3/16/15

Required Date: 3/26/15

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:B98.12.07Changed location for step 2DM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
80-007-15-4A *80-007-15-4A* Insert		Purchased	No			120	Each	28.0000	24	24			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST563		28							
				m129865		28							
AN4-6A *AN4-6A* BOLT		Purchased	No			120	Each	2,038.000	24	24			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				CA		143							
				M128403		43							
				M130851		100							
				ST325A		1599							
				M131153		1599							
				ST345		296							
				M128403		8							
				M128634		288							
D2713 *D2713* Hardpoint Lug		Manufactured	No			120	Each	4.0000	4	4			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST483		4							
				36699		1							
				82667		3							
				8130833									

AUG 21 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

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Page 2

Work Order ID: 130965

Parent Item: D407-649-011

Parent Item Name: Hardpoint for Heli-Utility-Pod™

130965

D407-649-011

Start Date: 3/16/15

Required Date: 3/26/15

Start Qty: 1.00

Required Qty: 1.00

D2755-1

Manufactured No

120

Each

10.0000

1

D2755-1

Hardpoint Lug

**

JA

DAS

27

9-89

DAS

6

9-89

Location

Loc Qty

Loc Code

st535

10

17551

1

79531

9

D2755-2

Manufactured No

120

Each

11.0000

1

D2755-2

Lug

**

JA

DAS

27

9-89

DAS

6

9-89

Location

Loc Qty

Loc Code

st535

11

17552

2

48383

9

D2756

Manufactured No

120

Each

15.0000

6

D2756

Inner Doubler

**

JA

AUG 21 2015

DAS

27

9-89

DAS

6

9-89

Location

Loc Qty

Loc Code

ST010

15

109467

6

121788

8

82549

1

D2757

Manufactured No

120

Each

30.0000

6

D2757

Outer Doubler

**

JA

ShmB

DAS

6

9-89

Location

Loc Qty

Loc Code

ST010

30

109790

21

77079

8

9235

1

B135875

6

March-26-15 1:32:27 PM

Shop Packet Print

Page 2

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

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Page 3

Work Order ID: 130965

Parent Item: D407-649-011

Parent Item Name: Hardpoint for Heli-Utility-Pod™

130965

D407-649-011

Start Date: 3/16/15

Required Date: 3/26/15

Start Qty: 1.00

Required Qty: 1.00

M7885/2-4-1

Purchased

No

120

Each

28.0000

96

96

M7885/2-4-1

Rivet

DAS
6
9-89

Location

Loc Qty

Loc Code

ST556

28

m131198

28

28

M7885/3-4-2

Purchased

No

120

Each

89.0000

126

126

M7885/3-4-2

Rivet

DAS
6
9-89

Location

Loc Qty

Loc Code

ST557

89

110267

89

92

NAS1149D0463J

Purchased

No

120

Each

2,463.000

24

34 24

NAS1149D0463J

WASHER

DAS
6
9-89

Location

Loc Qty

Loc Code

CA

397

M129682

397

GA

136

M129390

136

ST269

1930

M130799

507

M131624

1423

m132035

24

AUG 21 2015

DAS
27
9-89

DQA: _____ Date: _____



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DAS
6
9-89

6 PARTS LIST

Qty	Part Number	Description
X	D407-649-011	407 HARDPOINT KIT INSTALLATION
4	D2713	BRACKET
1	D2755-1	AFT BRACKET LH
1	D2755-2	AFT BRACKET RH
6	D2756	INNER DOUBLER
6	D2757	OUTER DOUBLER
96	M7885/2	RIVET
126	M7885/3	RIVET
24	AN4-6A	BOLT
24	AN960JD416	WASHER
24	80-007-15-4A	INSERT - DOME HEAD

7 HARDPOINT LOAD LIMITS (REFERENCE ONLY)

The maximum limit loads on the Hardpoint Kit are 500 lb vertical load and 280 lb radial horizontal load for each individual hardpoint. The radial horizontal and vertical loads may be applied simultaneously. Any equipment attached to the hardpoints **shall not exceed these loads**.

8 CARGO HOOK LIMITATIONS (REFERENCE ONLY)

Loads applied to the Dart Hardpoint Kit Installation will limit the load carrying capacity of the cargo hook according to the following Figure. When the hardpoints are loaded to their maximum capacity, outlined in section 7 of this document, the cargo hook is limited to carrying a maximum load of 1850 lb.

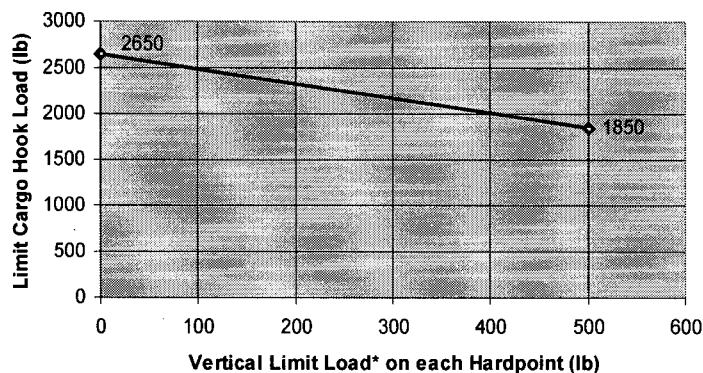


Figure 5 - Cargo Hook Limitations for Hardpoint Loads

* The Vertical Limit Load on each Hardpoint refers to the maximum allowable vertical limit load for a single hardpoint only. The 500 lb vertical limit load indicated in Figure 5 implies a maximum radial horizontal load of 280 lb, according to section 7 of this document. These limit loads should not be exceeded.

Revision : B

Date : 98.04.29